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# TECHNICAL

# NOTES

LAKE STATES FOREST EXPERIMENT STATION  
U.S. DEPARTMENT OF AGRICULTURE · FOREST SERVICE

232.311.1

No. 501

★ DEC 30 1959 ★

1956 Forest Tree Seed Crop Subnormal in the Lake States

During 1956 forest tree seed crops throughout the Lake States generally were poorer than in 1955 or than the average since 1950, according to observations made at field centers of the Lake States Forest Experiment Station. There were exceptions, of course, for some localities and some species. Red pine and white pine consistently had the poorest crops of any species observed extensively (see table on reverse side). Northern white-cedar had consistently the best crops. Among the hardwoods sugar maple generally had the best seed production. The oaks in general were poorest, although crop failures were reported in some localities for beech, yellow birch, paper birch, and quaking aspen. In general most conifers produced poor to failing crops in northern Minnesota and the Lower Peninsula of Michigan, poor to medium crops in northeastern Wisconsin, and medium to bumper crops in central Upper Michigan.

In northern Minnesota good crops were reported in some localities for white spruce, black spruce, northern white-cedar, and sugar maple. The following species had crop failures: Red pine, white pine, balsam fir, yellow birch, paper birch, and quaking aspen.

In northeastern Wisconsin northern white-cedar produced a bumper seed crop and tamarack, sugar maple, white ash, and black ash had good crops. Crop failures occurred among red pine, Scotch pine, and balsam fir.

Generally the best seed production took place in central Upper Michigan. White spruce and northern white-cedar produced bumper crops. Good crops were noted for black spruce, balsam fir, eastern hemlock, the maples, beech, paper birch, the aspens, and black ash. All other species had medium crops except red pine and white pine, which had crop failures.

Good to bumper crops of white spruce, balsam fir, and northern white-cedar were noted on Isle Royale.

In the Lower Peninsula of Michigan American elm was the only species with a good seed crop. Except for the maples with medium crops, all other species had poor to failing seed crops.

In north central North Dakota (reported for the first time) chokecherry had a bumper seed crop; boxelder, American elm, green ash, American plum, and Russian-olive had good crops; and hackberry, bur oak, and caragana had poor crops.

Because most seed collectors are interested chiefly in the pines, 1956 was a poor year in the Lake States. The spruces, of next greatest interest, presented a much more favorable picture, however, in Upper Michigan and in some parts of northern Minnesota. For those wildlife species depending largely on mast for winter food the poor oak and beech seed crops provide unfavorable conditions in northern Minnesota and Lower Michigan and only fair conditions in northeastern Wisconsin and Upper Michigan.

July 1957

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MAINTAINED AT ST. PAUL I, MINNESOTA, IN COOPERATION WITH THE UNIVERSITY OF MINNESOTA

Table 1.--Forest tree seed crops in the Lake States, 1956.

Species	Estimated percentage of a full crop <sup>1/</sup> in--				
	Northern Minnesota	Northeastern Wisconsin	Central Upper Michigan	Lower Peninsula Michigan	North central North Dakota
Red pine	7	7	7	25	<u>2</u> /--
Eastern white pine	7	25	7	7	--
Jack pine	25-50	25	50	--	--
Scotch pine	--	7	--	--	--
White spruce	25-75	50	95	25	--
Black spruce	50-75	50	75	--	--
Norway spruce	--	25	--	--	--
Balsam fir	7	7	75	--	--
Eastern hemlock	--	25	75	--	--
Northern white-cedar	75	95	95	--	--
Tamarack	25	75	50	--	--
Sugar maple	75	75	75	50	--
Red maple	--	--	75	50	--
Boxelder	--	--	--	--	75
American beech	--	--	75	7	--
Basswood	--	25	50	--	--
Yellow birch	7	25	50	--	--
Paper birch	7-25	--	75	--	--
Quaking aspen	7	50	75	--	--
Bigtooth aspen	--	50	75	--	--
American elm	--	--	50	75	75
Hackberry	--	--	--	--	25
White ash	--	75	--	--	--
Black ash	--	75	75	--	--
Green ash	--	--	--	--	75
Bur oak	--	--	--	--	25
Northern pin oak	--	--	--	7	--
Black oak	--	--	--	7	--
Northern red oak	25	50	50	7	--
White oak	--	--	--	25	--
Chokecherry	--	--	--	--	95
American plum	--	--	--	--	75
Russian-olive	--	--	--	--	75
Caragana	--	--	--	--	25

<sup>1/</sup> Percentages of a full crop are classified as follows: 0 - 15, failure; 16 - 35, poor; 36 - 60, fair; 61 - 90, good; 91 - 100, bumper.

<sup>2/</sup> (--) signifies no report on this species.